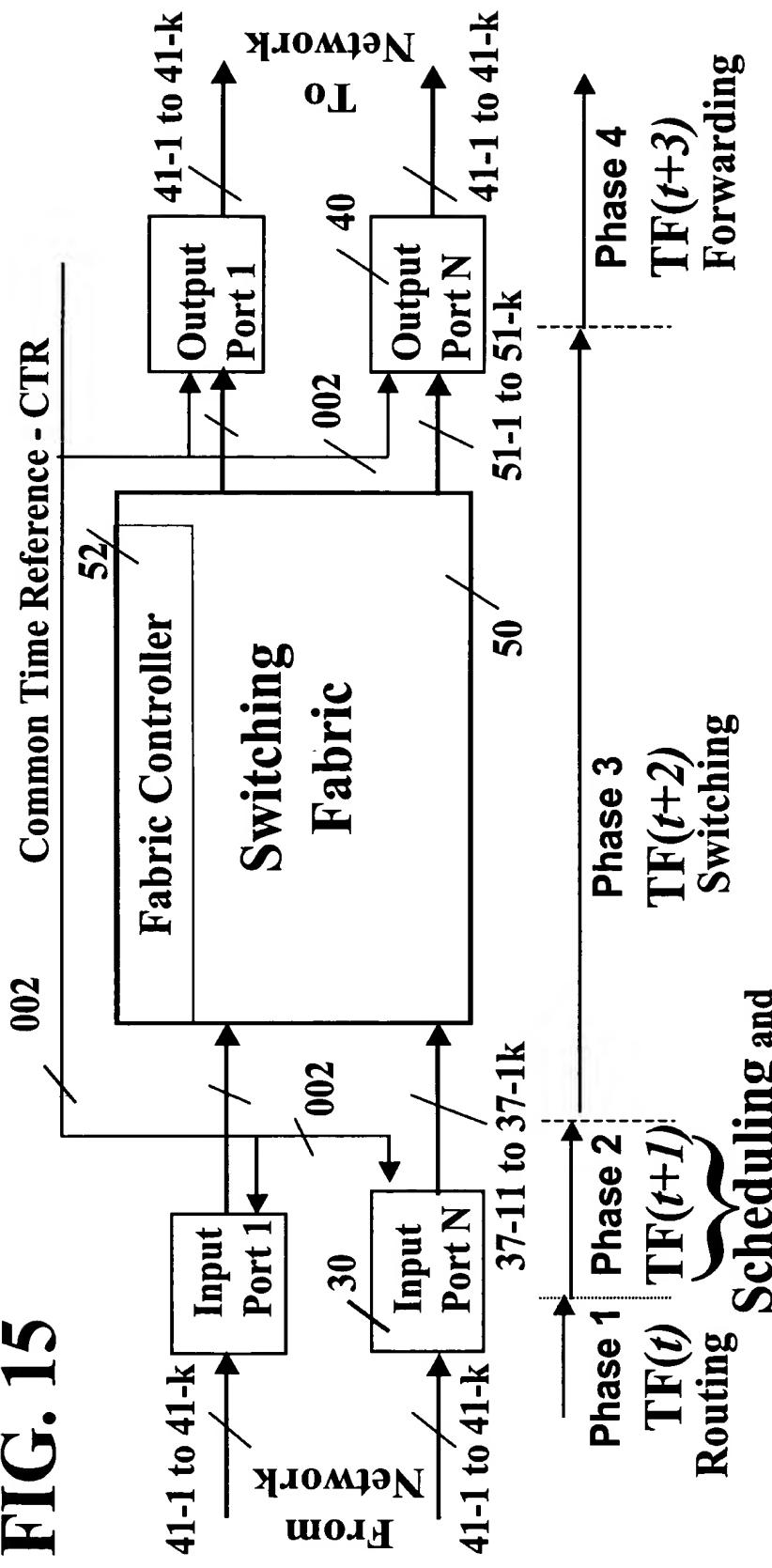




**FIG. 15**

Common Time Reference - CTR



possibly more TFs  
for rescheduling of:

VBR and “Best Effort” - after receiving  
Input reject message 63

# FIG. 25

FAST switching - Fabric controller – switching matrices -  
 $M(i,j,t)$  - for every time slot:

**2510**

$t$  - is defined by the triplet:  
 $\begin{cases} - s - \# \text{ of slot positions in time frame} \\ - f - \# \text{ of frame positions in time cycle} \\ - c - \# \text{ of cycle positions in super cycle} \end{cases}$   
[Total number of switching matrices -  $M(i,j,t) = s*f*c$ ]

Matrix  $M(i,j,t)$ , such that,  $1 <= t <= s*f*c$ :

|                | <b>4 input ports - i</b> | <b>output-1</b>   | <b>output-2</b> | <b>output-3</b> | <b>output-4</b> |
|----------------|--------------------------|-------------------|-----------------|-----------------|-----------------|
| <i>input-1</i> |                          |                   |                 |                 |                 |
| <i>input-2</i> |                          | <i>value,type</i> |                 |                 |                 |
| <i>input-3</i> |                          |                   |                 |                 |                 |
| <i>input-4</i> |                          |                   |                 |                 |                 |

*value=0* - disconnect input port from output port

*value=1* - connect input port to output port

*type=0* - temporary value in this switching matrix

*type=1* - permanent value in this switching matrix

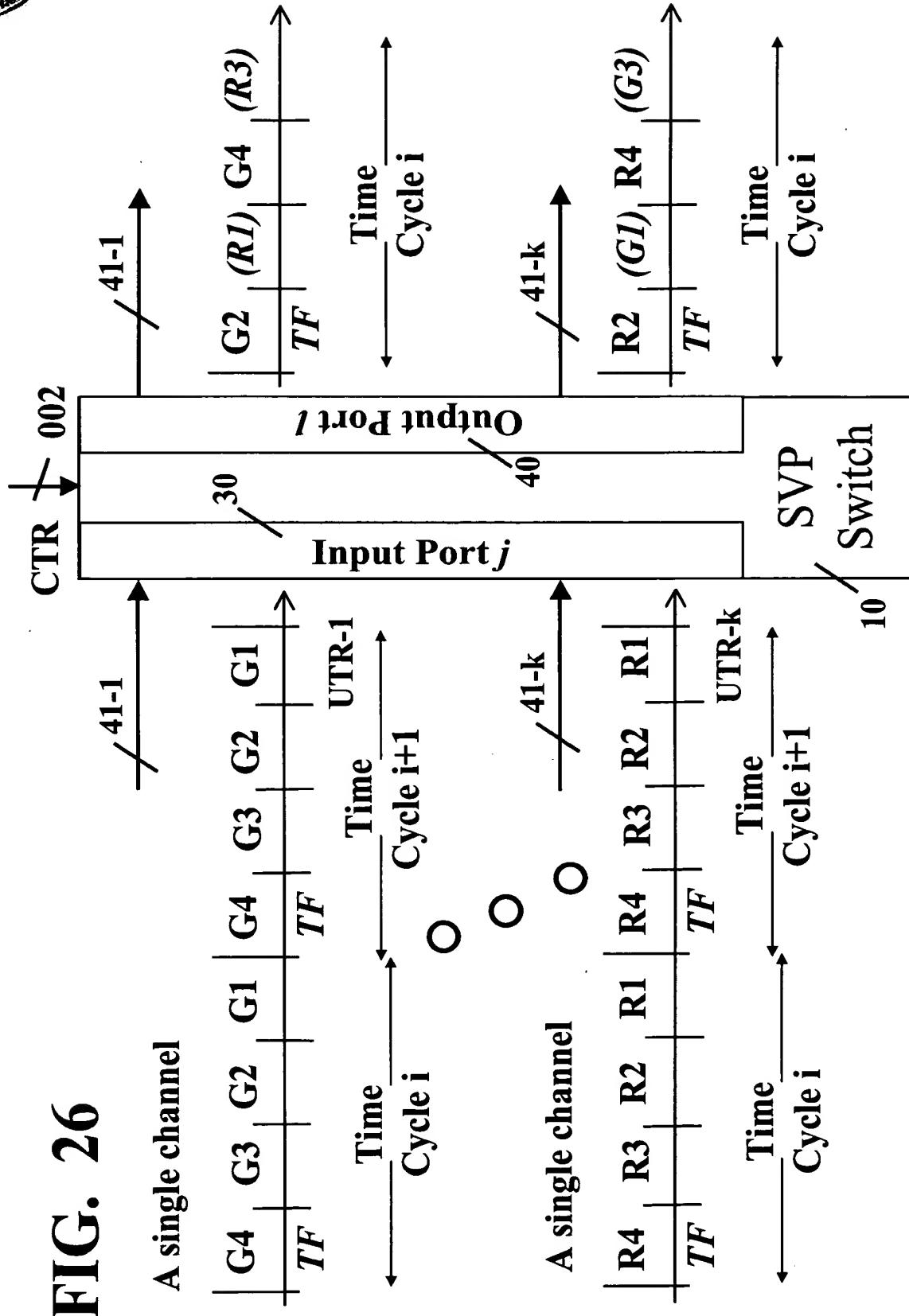
**2500**





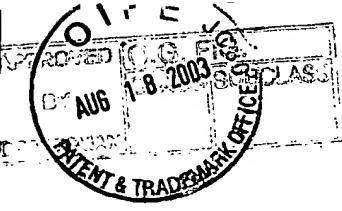
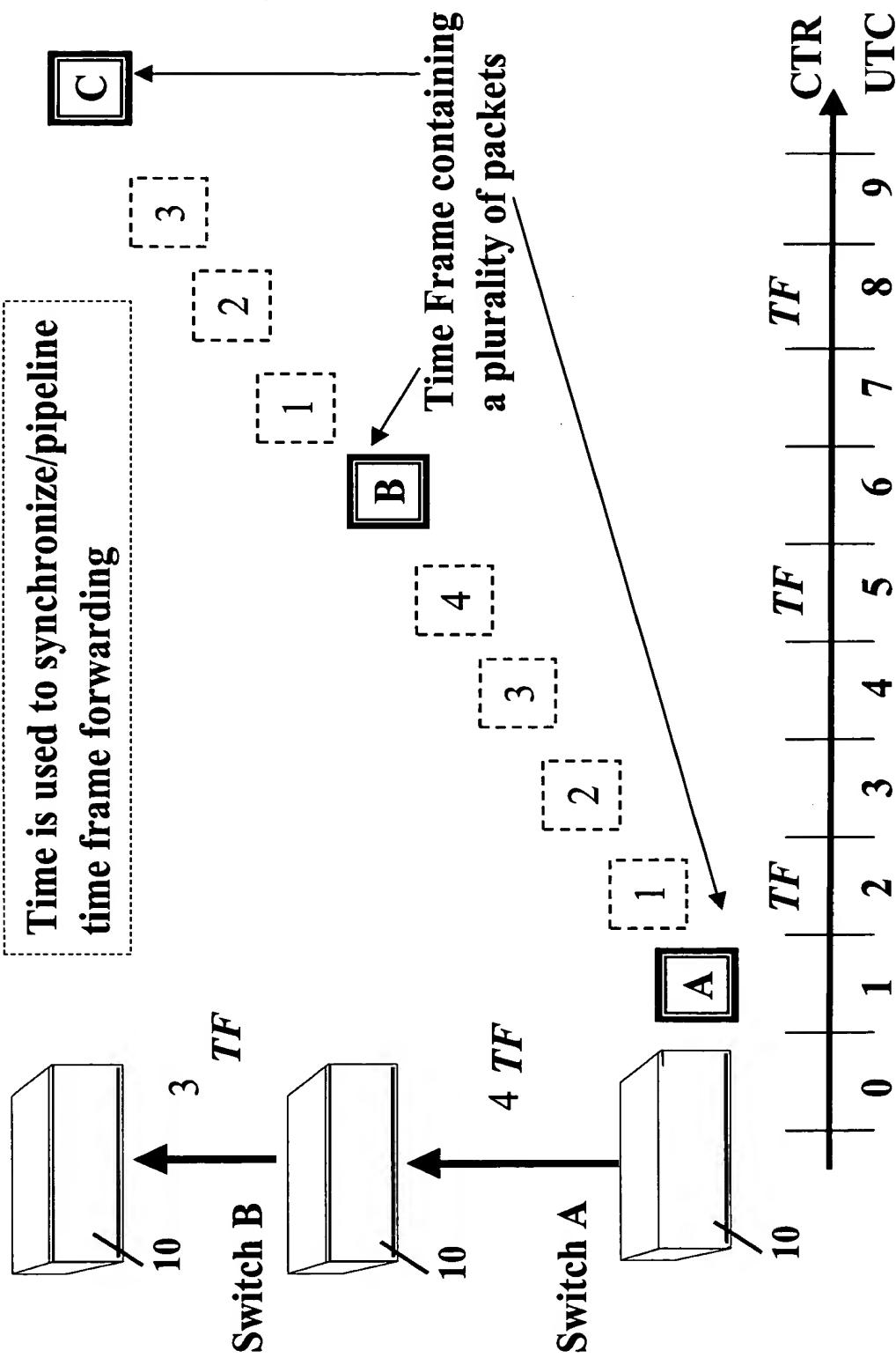
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FIG. 26



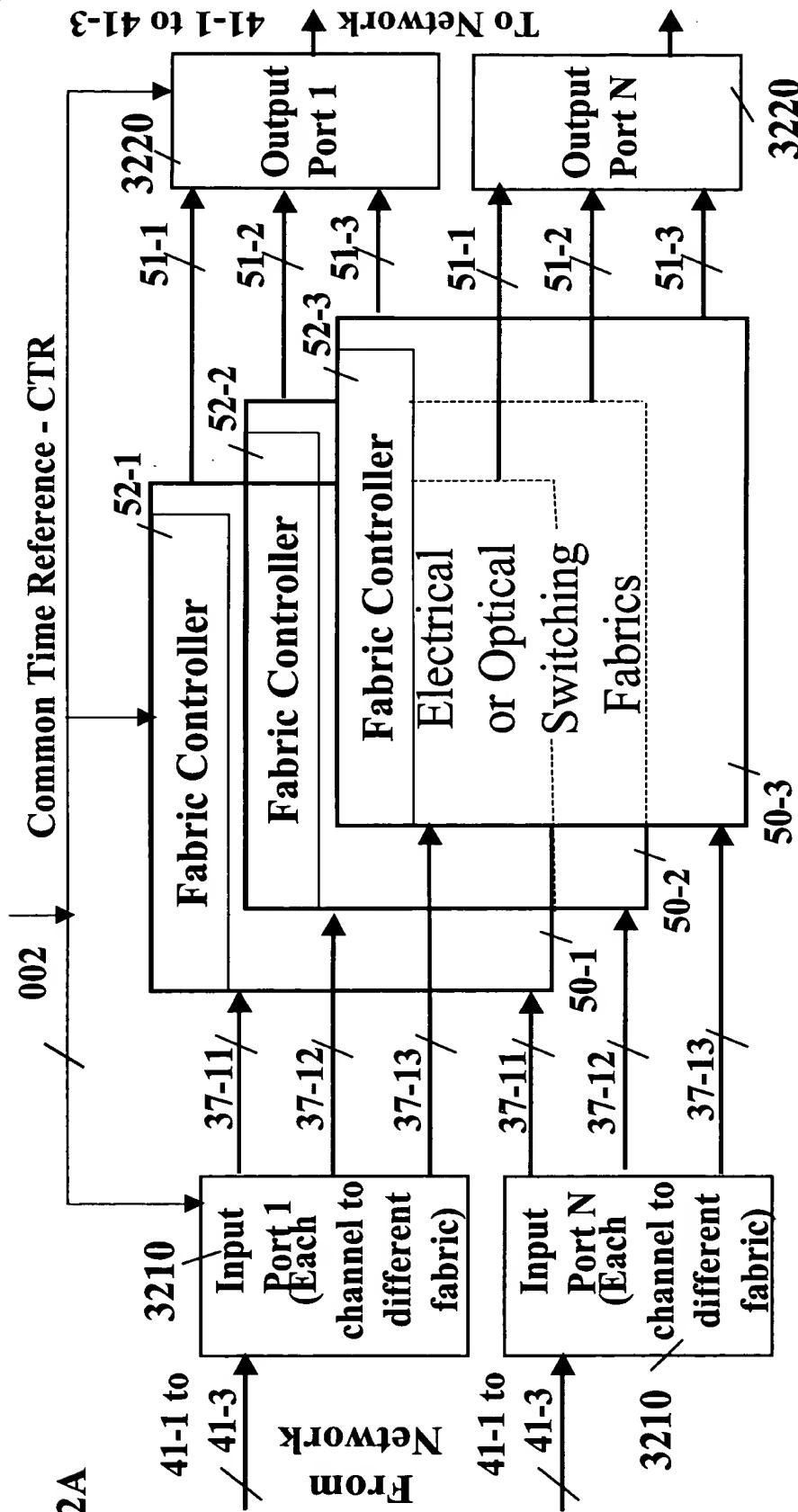
**FIG. 28**

Switch C

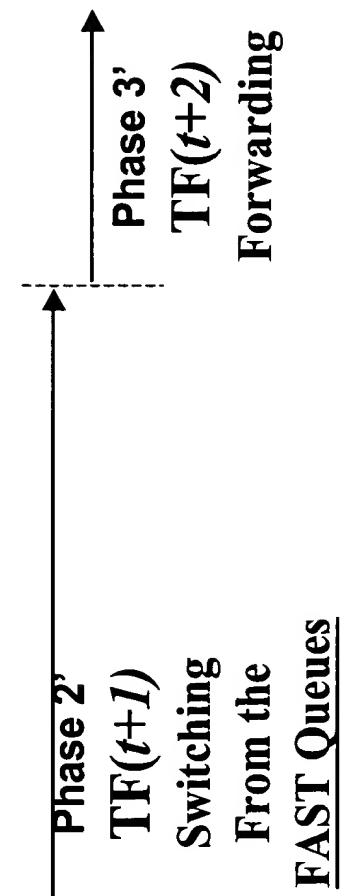


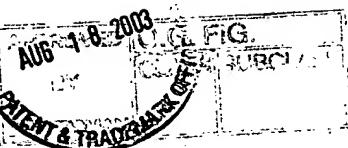


**FIG. 32A**



**FIG. 32B**

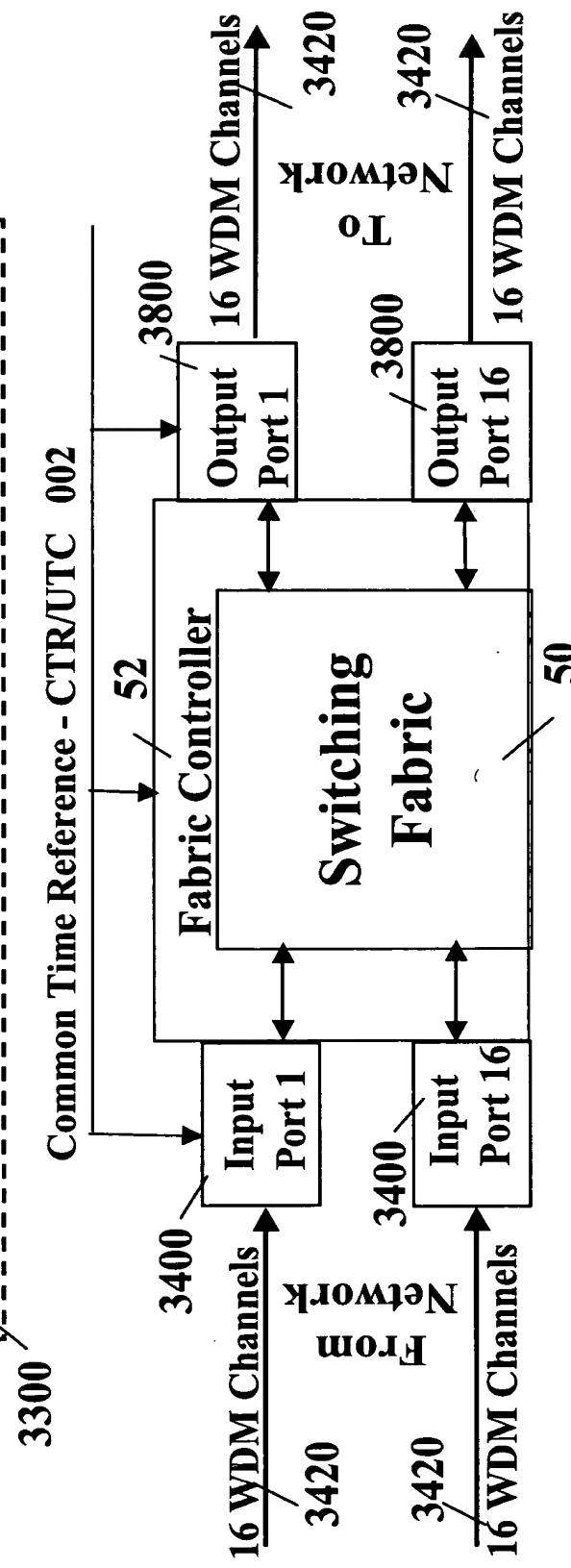




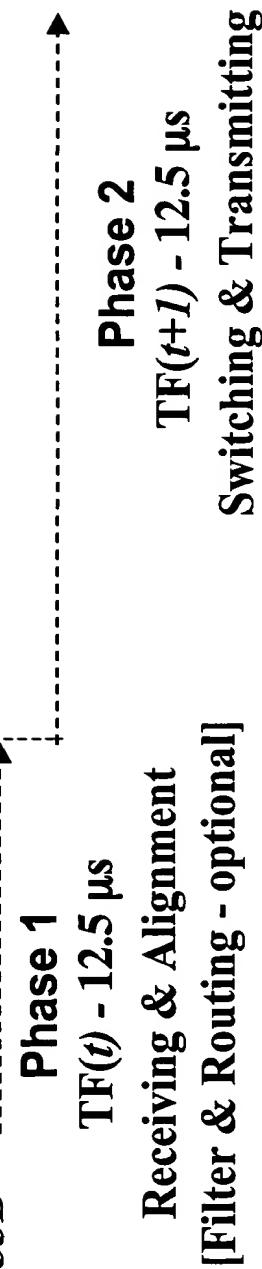
**FIG. 33A**

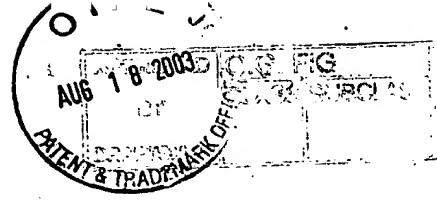
**Switching principle:** From(any TF of any Channel at any Input)  
To(predefined TF of any Channel at any Output)

- [The predefined TF is either:  
 - immediate: next TF, or  
 - non-immediate: after two, three or more TFs]

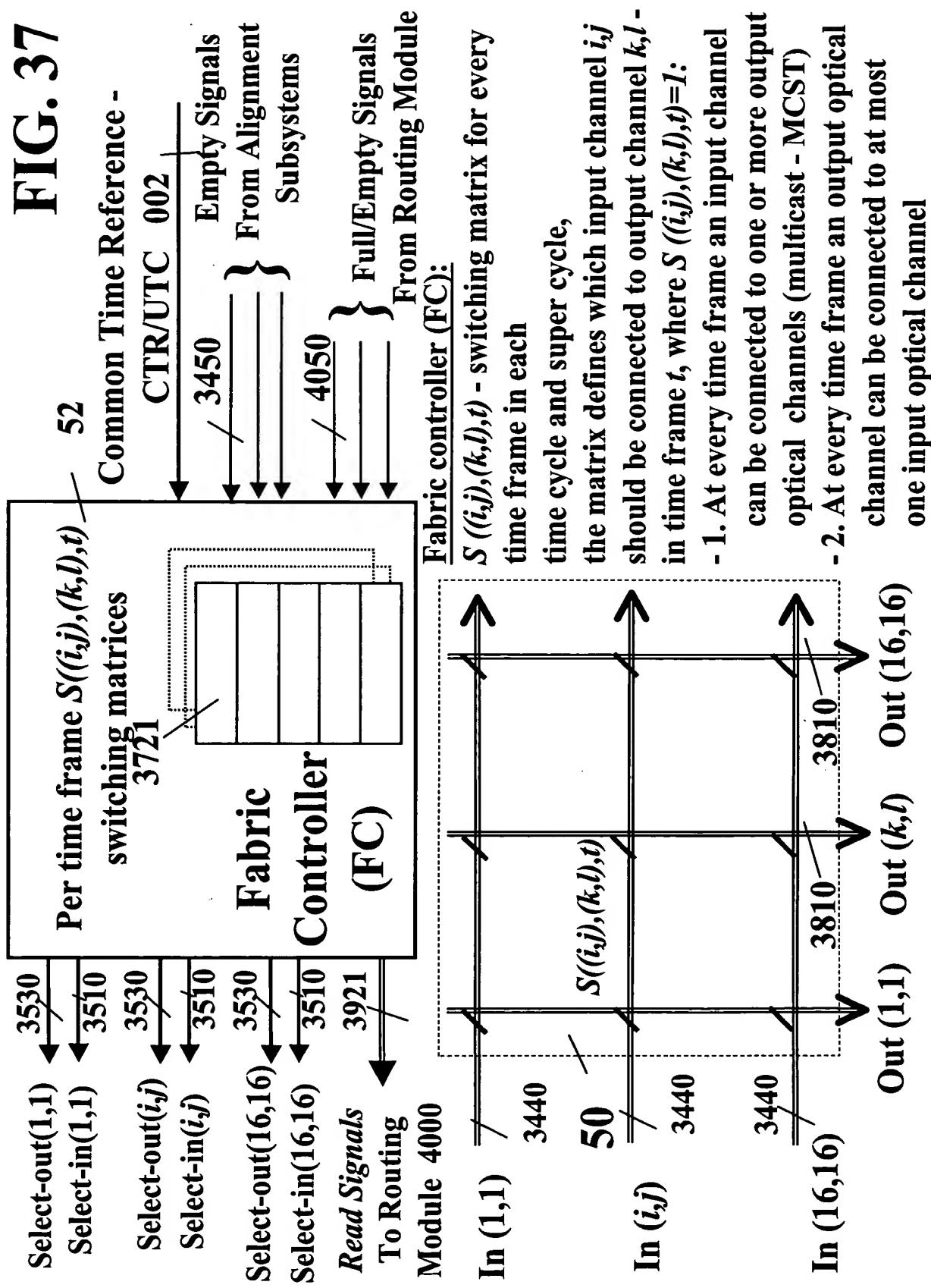


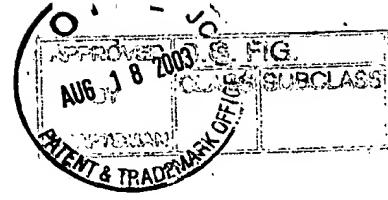
**FIG. 33B**





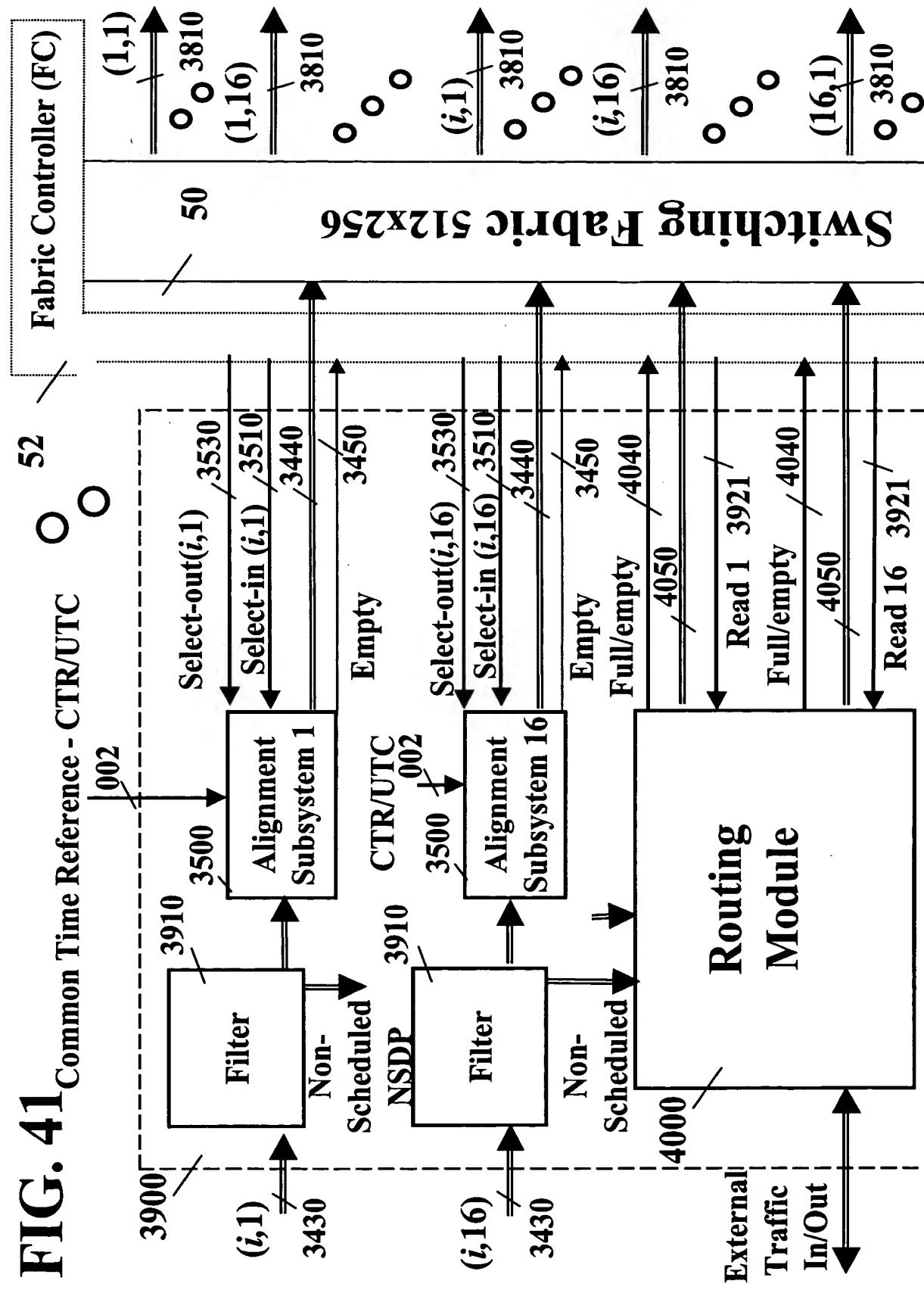
**FIG. 37**





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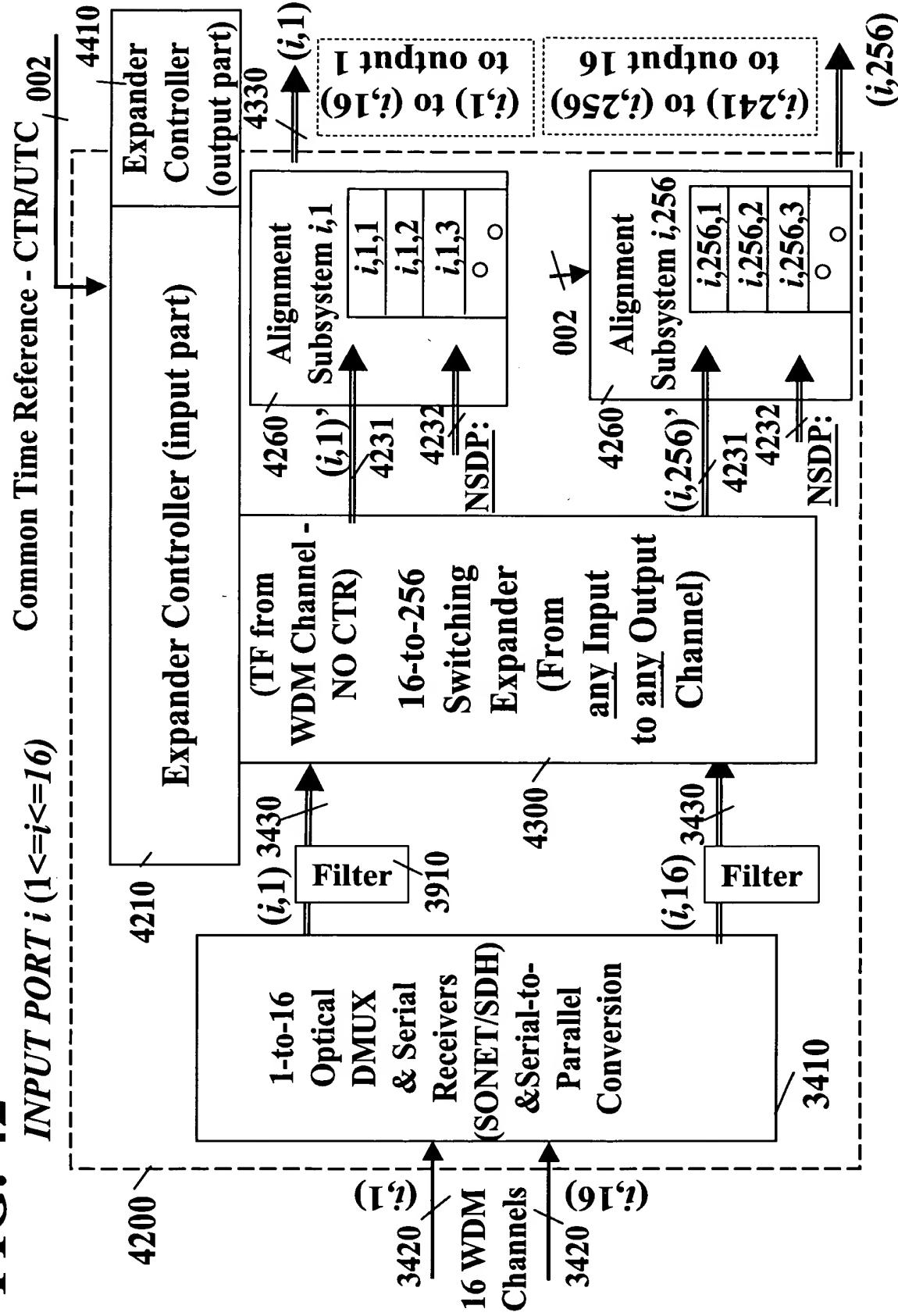
**FIG. 41** Common Time Reference - CTR/UTC





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FIG. 42





**FIG. 45**  
**4500**

**Ingress only OC-48 / OC-192**  
**Synchronizer/Shaper - Mapping IP/MPLS to UTC**

CTR/UTC 002

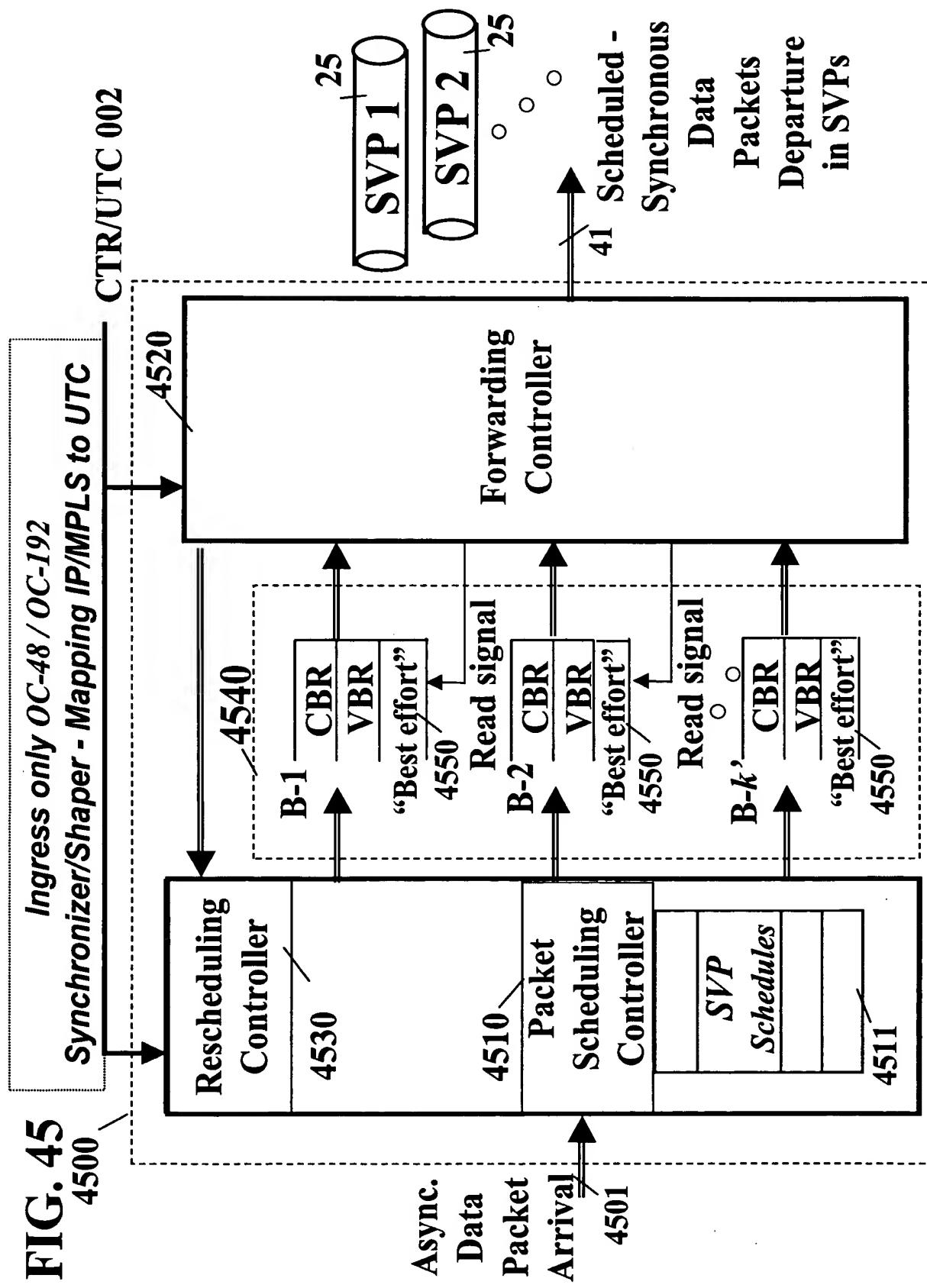




FIG. 47

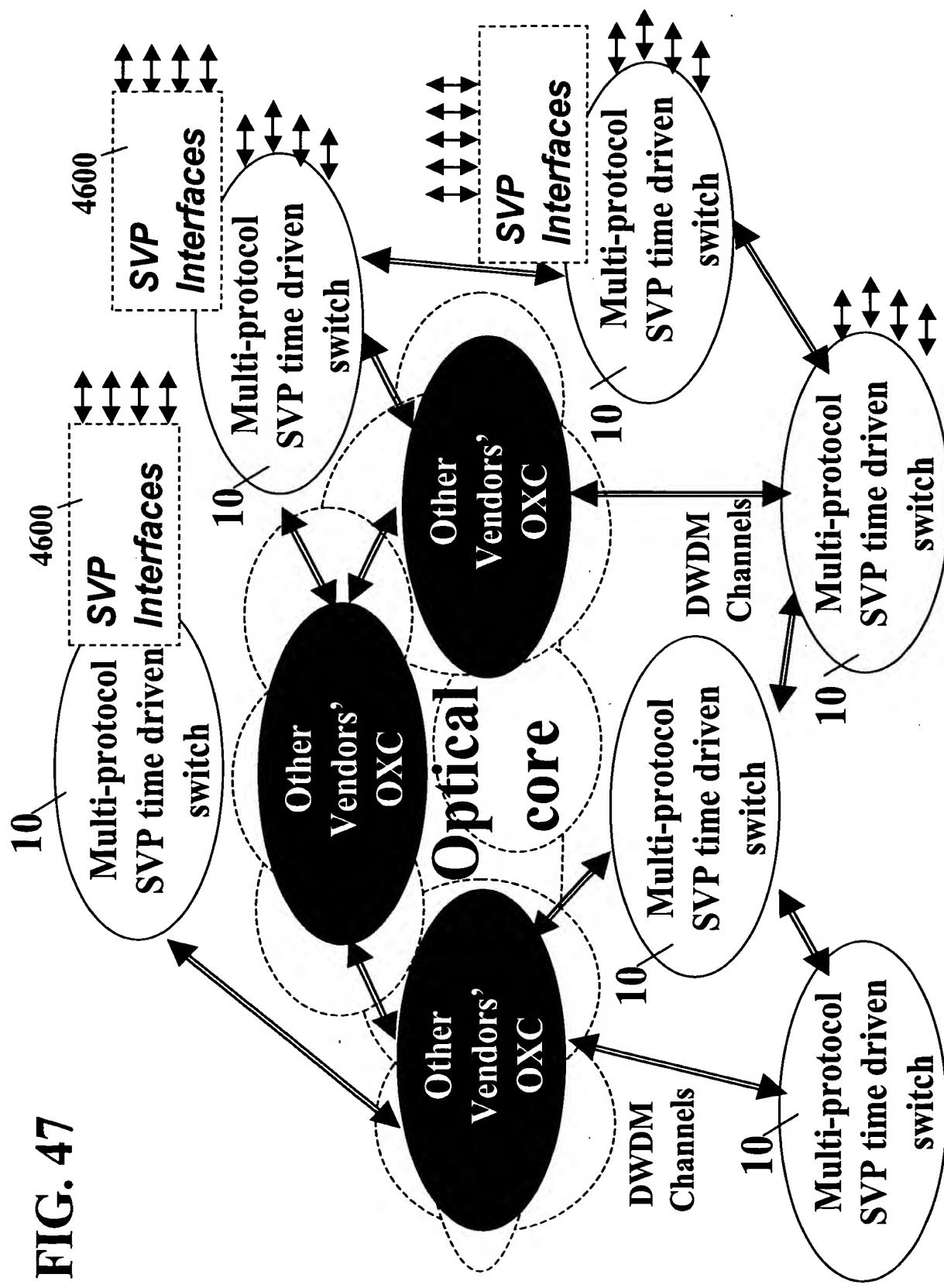




FIG. 48

